

# EXHIBIT J

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Dictionary**

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Third Edition

**Microsoft** Press

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**input**

checksums on the code can be recomputed and compared with the stored original checksums each time the program is run; if any have changed, the program file is corrupt and may be infected. *See also* checksum, virus.

**input**<sup>1</sup> \in'pōt\ *n.* Information entered into a computer or program for processing, as from a keyboard or from a file stored on a disk drive.

**input**<sup>2</sup> \in'pōt\ *vb.* To enter information into a computer for processing.

**input area** \in'pōt ā'ē-ə\ *n.* *See* input buffer.

**input-bound** \in'pōt-bound'\ *adj.* *See* input/output-bound.

**input buffer** \in'pōt buf'ər\ *n.* A portion of computer memory set aside for temporary storage of information arriving for processing. *See also* buffer<sup>1</sup>.

**input channel** \in'pōt chan'əl\ *n.* *See* input/output channel.

**input device** \in'put dā-vīs'\ *n.* A peripheral device whose purpose is to allow the user to give input to a computer system. Examples of input devices are keyboards, mice, joysticks, and styluses. *See also* peripheral.

**input driver** \in'pōt dri'vər\ *n.* *See* device driver.

**input/output** \in'pōt-out'pōt\ *n.* The complementary tasks of gathering data for a computer or a program to work with, and of making the results of the computer's activities available to the user or to other computer processes. Gathering data is usually done with input devices such as the keyboard and the mouse, as well as disk files, while the output is usually made available to the user via the display and the printer and via disk files or communications ports for the computer. *Acronym:* I/O (I-O').

**input/output area** \in'pōt-out'pōt ā'ē-ə\ *n.* *See* input/output buffer.

**input/output-bound** \in'pōt-out'pōt-bound'\ *adj.* Characterized by the need to spend lengthy amounts of time waiting for input and output of data that is processed much more rapidly. For example, if the processor is capable of making rapid changes to a large database stored on a disk faster than the drive mechanism can perform the read and write operations, the computer is input/output-bound. A computer may be simply input-

**input/output device**

bound or output-bound if only input or only output limits the speed at which the processor accepts and processes data. *Also called* I/O-bound.

**input/output buffer** \in'pōt-out'pōt buf'ər\ *n.* A portion of computer memory reserved for temporary storage of incoming and outgoing data. Because input/output devices can often write to a buffer without intervention from the CPU, a program can continue execution while the buffer fills, thus speeding program execution. *See also* buffer<sup>1</sup>.

**input/output bus** \in'pōt-out'pōt bus'\ *n.* A hardware path used inside a computer for transferring information to and from the processor and various input and output devices. *See also* bus.

**input/output channel** \in'pōt-out'pōt chan'əl\ *n.* A hardware path from the CPU to the input/output bus. *See also* bus.

**input/output controller** \in'pōt-out'pōt kən'trōlər\ *n.* Circuitry that monitors operations and performs tasks related to receiving input and transferring output at an input or output device or port, thus providing the processor with a consistent means of communication (input/output interface) with the device and also freeing the processor's time for other work. For example, when a read or write operation is performed on a disk, the drive's controller carries out the high-speed, electronically sophisticated tasks involved in positioning the read-write heads, locating specific storage areas on the spinning disk, reading from and writing to the disk surface, and even checking for errors. Most controllers require software that enables the computer to receive and process the data the controller makes available. *Also called* device controller, I/O controller.

**input/output device** \in'pōt-out'pōt dā-vīs'\ *n.* A piece of hardware that can be used both for providing data to a computer and for receiving data from it, depending on the current situation. A disk drive is an example of an input/output device. Some devices, such as a keyboard or a mouse, can be used only for input and are also called input devices. Other devices, such as printers, can be used only for output and are also called output devices. Most devices require installation of software routines called device drivers to enable the computer to transmit and receive data to and from them.